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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/814,124	03/22/2001	Kristen P. O' Rourke	1874.0090000/MVM/TCF	2047
26111	7590	11/02/2004	EXAMINER	
STERNE, KESSLER, GOLDSTEIN & FOX PLLC 1100 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			BECKER, SHAWN M	
			ART UNIT	PAPER NUMBER

2173

DATE MAILED: 11/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/814,124

Applicant(s)

O' ROURKE ET AL.

Examiner

Shawn M. Becker

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-44 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract exceeds 150 words and appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-21 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 16 recite the term "Ihost server", and it is not clear what makes a server an "Ihost server". While this term is used in the specification, there is no distinguishing definition for what characteristics an "Ihost server" must comprise or how it is different from a typical server.

Similarly, claim 9 refers to an "AvMan server", which is not properly defined.

Claim Rejections - 35 USC § 103

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4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-3, 7, 9-11, 15-16, 18-24, 28, 30-32, 36-37, and 39-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Publication 2001/0014868 to Herz et al. (hereinafter Herz).

Referring to claims 1, 22, and 43, Herz teaches a method, computer program product, and data mining system for tracking user behavior (i.e. pg. 1, paragraph 0002 and the top paragraph in the second column of page 1) in a three-dimensional multi-user (i.e. multiple shoppers) environment (i.e. page 25, paragraph 0255 and page 27, paragraph 0260) comprising:

an Ihost server (i.e. Fig. 1, 101), wherein said Ihost server is adapted to simulate the three-dimensional multi-user environment and objects therein; and

a plurality of clients (i.e. Fig. 1, 131-13n) connected to said Ihost server via a network, wherein each of said clients is adapted to allow a user to alter the location of said objects in the three-dimensional multi-user environment (i.e. page 25, paragraph 0257, which describes how the user may rearrange clusters within the menu structure, which may be represented in a 3D space as described in the above referenced sections);

wherein said Ihost server is further adapted to maintain data mining within the three-dimensional multi-user environment, and wherein said data mining is adapted to generate a data mining fact concerning the location of said objects in the three-dimensional multi-user environment. See page 27, paragraph 260, which describes tracking what is contained in each

store, wherein each store may have a 3D spatial representation and page 25, paragraph 0257, which describe keeping track of where items are arranged (location). While Herz does not explicitly refer to a data mining pylon, Herz describes virtual stores with a 3D spatial representation, which implies a volume of space (pylon), within which a user's behavior is tracked (i.e. data mining; page 23, paragraph 0247). It would have been obvious to one of ordinary skill in the art to create a data mining pylon for the volume of each virtual store to provide data to the vendor for increasing profit as described by Herz. See page 1, paragraph 0003.

Referring to claims 16, 37, and 44, Herz teaches a method and data mining system for tracking user behavior (i.e. pg. 1, paragraph 0002 and the top paragraph in the second column of page 1) in a three-dimensional multi-user (i.e. multiple shoppers) environment (i.e. page 25, paragraph 0255 and page 27, paragraph 0260) comprising:

an Ihost server (i.e. Fig. 1, 101), wherein said Ihost server is adapted to simulate the three-dimensional multi-user environment and objects therein, wherein at least one of the objects comprises an object with usage trigger that is adapted to detect when a second object (i.e. shopper) interacts with the object with usage trigger and to generate a data mining face in response to the interaction (i.e. see the top paragraph on the second column of page 1, which describes a photograph with a usage trigger for determining how long it is studied, and see page 5, paragraph 0039);

a plurality of clients (i.e. Fig. 1, 131-13n) connected to said Ihost server via a network, wherein each of said clients is adapted to allow a user to view objects in the three-dimensional multi-user environment (i.e. the user may view the merchandise in the various store fronts; page

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27, paragraph 0260). While it is not explicitly stated, it is implicitly implied that that the user may cause the objects in the three-dimensional multi-user environment to interact (i.e. purchasing the items in the virtual stores. It would have been obvious to one of ordinary skill in the art to allow the user to cause the objects to interact in the three-dimensional environment in order to visually show the purchasing of an item.

Referring to claims 2 and 23, Herz teaches that the data mining pylon is further adapted to generate a list of objects within said data mining pylon (i.e. virtual store) at a predetermined point in time, and wherein said data mining fact generated by said data mining pylon includes said list of objects. See page 27, paragraph 0260, which describes keeping a list of each node within a hierarchical tree structure.

Referring to claims 3 and 24, Herz teaches the data mining fact generated by said data mining pylon further includes state information for each of said objects included on said list of objects. See the top paragraph on the second column of page 1, which describes tracking how long a photograph is studied, for example. Also, see page 5, paragraph 0039.

Referring to claims 7 and 28, the data mining pylon of Herz contains a second data mining pylon (i.e. other virtual shop or virtual shelf), and the second data mining pylon is also adapted to generate a data mining fact concerning the location of said objects in the three-dimensional multi-user environment. See page 27, paragraph 0260.

Referring to claims 9, 20, 30, and 41, Herz teaches an AvMan server (i.e. Fig. 1, 102) connected to the Ihost server, wherein the AvMan server comprises a data warehousing file that stores the data mining fact (i.e. Fig. 1, 103);

wherein the Ihost server is further adapted to provide the data mining fact to said AvMan server and wherein said AvMan server is adapted to receive said data mining fact and to store said data mining fact in said data warehousing file. See page 3, under "Architecture of the Shopping System".

Referring to claims 10, 21, 31, and 42, the AvMan server of Herz is further adapted to generate a second data mining fact and to store said second data mining fact in said data warehousing file, and the second data mining fact includes user login information. See page 4, paragraph 0035.

Referring to claims 11 and 32, one of said plurality of clients further comprises:

an editor; wherein said editor is adapted to allow a user to create a data mining pylon and change the state of said data mining pylon in the three-dimensional multi-user environment. As examples, see page 5, paragraph 0046, page 25, paragraphs 0255 and 0256, and page 26, 0259.

Referring to claims 15 and 36, the network of Herz comprises the Internet. See page 3, paragraph 0023.

Referring to claims 18 and 39, the data mining fact of Herz comprises the identity of the object with usage trigger (i.e. photograph) and the second object (shopper). See the top paragraph on the second column of page 1.

Referring to claims 19 and 40, Herz teaches the data mining fact further comprises the type of interaction (i.e. sale), the time that the interaction occurred (i.e. 8, paragraph 0120 implies that the date each interaction occurred is stored to determine if it was within the past month), and the location in the three-dimensional multi-user environment at which the interaction occurred (i.e. page 8, 0121).

6. Claims 4-5, 14, 17, 25-26, 35, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herz and U.S. Patent No. 6,476,830 to Farmer et al. (hereinafter Farmer).

Referring to claims 4-5 and 25-26, Herz teaches the data mining pylon (virtual shop) observes the interaction with the objects that lie within (i.e. page 5, paragraph 0039), but Herz does not explicitly teach generating a first list of objects within said data mining pylon at a first point in time, generating a second list of objects within said data mining pylon at a second point in time, comparing the first list of objects to the second list of objects, wherein the objects appearing in the second list but not in the first list comprise objects that have entered the data mining pylon and the objects appearing in said first list but not in the second list comprise objects that have exited the data mining pylon, and wherein said data mining fact generated by said data mining pylon includes a list of said objects that have entered said data mining pylon and said objects that have exited said data mining pylon. However, Farmer teaches a virtual world in which objects (i.e. avatars, tokens, and other virtual objects) can move between locales (i.e. pylons), and the objects (i.e. tokens entering and exiting an ATM and avatars entering and exiting a locale), which enter and exit a volume of space (pylon) are tracked (identified). See col. 2, line 11 – col. 5, line 50. It would have been obvious to one of ordinary skill in the art to combine the data mining and shopping method of Herz with the virtual world of Farmer such that the data mining fact generated by the data mining pylon (i.e. virtual shop) includes a list of the object that have entered the data mining pylon (i.e. virtual shop) and the objects that have exited the data mining pylon (i.e. virtual shop) in order to track which objects are exchanged within the community and to track when a locale is full as supported by Farmer.

Referring to claims 14, 17, 35, and 38, Herz does not explicitly state that the shoppers are represented as avatars. However, Farmer teaches a virtual three-dimensional world in which shoppers are represented as avatars. See col. 2, lines 12-27. It would have been obvious to one of ordinary skill in the art to include avatars in the three-dimensional world of Herz in order to represent the shoppers within the world as shown in Farmer.

7. Claims 6, 8, 12-13, 27, 29, and 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herz and U.S. Patent No. 6,094,196 to Berry et al. (hereinafter Berry).

Referring to claims 8 and 29, Herz does not explicitly teach that a data mining pylon is attached to a moving object within the three-dimensional multi-user environment. However, Berry teaches a three-dimensional environment in which a viewpoint (volume of interactive space; pylon) is attached to a moving user (i.e. col. 9, lines 6-10) and further that each object may contain an interactive sphere (col. 2, lines 45-61). It would have been obvious to one of ordinary skill in the art with the reference of Herz and Berry before him to modify the data mining pylon of Herz such that it is attached to each moving shopper to form a viewpoint of interactive objects as shown in Berry to keep the user/shopper focused on objects that are interactive as supported by Berry (i.e. col. 2, lines 12-23).

Referring to claims 6, 12, 27, and 33, Herz does not explicitly state that the data mining pylon is invisible or that it may be changed from visible to invisible and from invisible to visible. However, in the combination of Herz and Berry, *supra*, Berry shows the viewpoint with dashed lines in Fig. 2, indicating it may be invisible in the implemented version of the three-dimensional environment. It would have been obvious to one of ordinary skill in the art to make the data

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mining pylons (i.e. viewpoints) changeable from visible to invisible and invisible to visible in Herz and Berry, in order to allow the user to reduce screen clutter and make for a more crisp graphic display or to more clearly display the field of view.

Referring to claims 13 and 34, the data mining pylon of Herz and Berry, *supra*, is a cone (i.e. Berry at Fig. 2, 52).

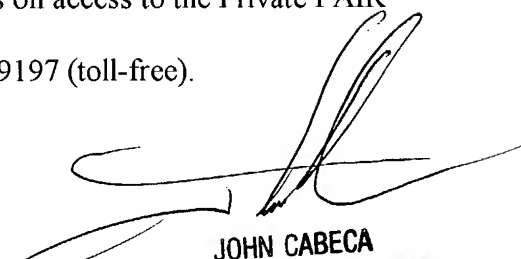
Conclusion

8. The prior art made of record on form PTO-892 and not relied upon is considered pertinent to applicant's disclosure. Applicant is required under 37 C.F.R. § 1.111(c) to consider these references fully when responding to this action. The documents cited therein teach three-dimensional navigable worlds and methods of tracking user data.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shawn M. Becker whose telephone number is (703) 305-7756. The examiner can normally be reached on M-F 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John W. Cabeca can be reached on (703) 308-3116. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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